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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**INFORMATION DISCLOSURE STATEMENT
ACCORDING TO 37 C.F.R. §1.97(b)**

APPLICANT(S):	Alex Mindich	DOCKET NO:	P04,0019
SERIAL NO.:	10/782,655	ART UNIT:	3651
FILED:	February 19, 2004	EXAMINER:	
		CONF. NO.	5514

TITLE: Prestressed Tubular Belt and Method for Making

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. §1.56 and the requirements of 37 C.F.R. §1.98, Applicant respectfully requests that a citation and examination of the references identified on the attached PTO 1449 form be made during the course of examination of the above-identified application for United States Patent.

The present Information Disclosure Statement is being filed according to 37 C.F.R. §1.97(b) and before the latter occurrence of:

- (1) three months from the filing date of a national application;
- (2) three months from the date of entry of the national stage as set forth in 37 C.F.R. 1.491 in an international application; or
- (3) the mailing date of a first Office Action on the merits.

REMARKS

The attached PTO 1449 form lists related art references for the above identified application.

EXPLANATION OF RELEVANCE

References AA-AV, BA-BE, and CA-CB provide background information for the invention. References AA-AV and CA are in English, so no further commentary on their teaching is required.

Regarding reference BA, French Patent Document # 2, 263, 955 A1 to G.

Pataillot (Pataillot), Pataillot teaches a dry powder or thick wet material being carried within a closed tube, which in turn is carried inside of an open channel, which runs in a closed circuit on pulleys.

The inner tube has an axial split. Special pads (part of the outer channel) hold the tube closed. At loading and unloading points, the tube is permitted to open. The material of the tube is made anisotropic to give a desired response to the deformation when passing round pulleys. The anisotropy may be created by springs embedded in or attached to the material of the tube.

In embodiments of the present application, the tubular belt is prestressed in lateral direction in such a way that the longitudinal edges are always under compression due to inner bending moment inherited in the tube while manufacturing. Lateral prestressing can be achieved in a few ways. One of the embodiments suggests using steel springs for prestressing a tube in lateral direction. In order to secure prestressing, the spring element necessary would be bent to an angle greater than 360° when released.

Pataillot uses a spring in the form of cut rings as form shaping details only, and not as details creating a certain compression force in the belt joint. Pataillot is seeking anisotropy of a tube material, which would allow the creation of a tubular structure easily stretchable (when needed only) in a longitudinal direction (much like an accordion), while the present invention uses spring reinforcement as prestressing mechanism in a lateral direction to create and maintain permanently a compression force between the edges of the belt joint.

Regarding reference BB, Japanese Patent Document No. 52-25383 to N. Nemoto (Nemoto), Nemoto discloses a belt for conveying materials that may be deformed on U-shape or cylindrical shape with help of auxiliary means and devices.

The central portion of the belt itself contains a few instances of cord located slanted or in lateral direction only in order to secure maximum flexibility for lateral bending along the conveyor path. The side portion of the belt has a maximum longitudinal reinforcement for pulling the belt with material from point A to point B.

There is no disclosure for any prestressing of the belt in any direction.

Regarding reference BC, Japanese Patent Document No. 56-48312 to Y. Yoshinao (Yoshinao), Yoshinao teaches a suspended belt conveyor with improved mechanical supports and hangers that is capable of traveling along curved passages. This is included for the general purpose of disclosing movement of material in a very complicated path without spilling or scattering the transported material. The only common feature disclosed by this reference and the present invention is that the longitudinal edges of the belt are located together during the whole travel path.

Regarding reference BD, German Patent Document No. 1,934,342 to Leinweber et al. (Leinweber), Leinweber discloses a heavy-duty trough shaped belt manufactured with two distinctive reinforcements. Longitudinal reinforcement, presumably in the form of steel cables, provide all necessary tension force for propelling the belt with material along the conveying path.

Laterally, also steel fine reinforcement supports troughs/wings edges in the design position. Those troughs/wings edges are lying flat when the belt is passing pulleys. Leinweber discloses few embodiments of arrangement for longitudinal and lateral reinforcement, which fit major practical applications, including possible closed shape of the tubular belt.

This belt, however, does not contain any prestressing elements in lateral direction which would not only keep predetermined shape of tubular belt, but also secured compression force between joined longitudinal edges in order to avoid any loss of transported material during transportation.

Regarding reference BE, French Patent Document No. 796,295 to Freres (Freres), Freres describes a continuous tubular belt for transporting granular or pulverized materials mostly in a vertical direction. Freres uses a casual flat belt having separated or continuous edge joint devices. Freres assumes that the tubular belt will remain in a tubular shape passing a number of pulleys 5. There are idler supporting rollers 4 and desirable shape arranging rollers 6, which are located at every end of transformation zones.

Freres does not suggest any device or method of how edges of the belt could be joined together. There is no suggestion to any lateral prestressing or any indication for a secured longitudinal joint. To the contrary, the joint as shown may work only for tension forces applied to the joint, not compression forces as specified in the present application.

English-language abstracts have been provided for references BA-BC, and a full translation of these references will be produced at the request of the Examiner.

Reference CB is a sales brochure to which English-language reference CA corresponds closely, but not identically.

The filing of the present Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed as an admission that the information cited in the present Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

The above citation of related art is not a representation that such art constitutes a complete or exhaustive listing of all pertinent related art, nor that it necessarily includes the closest or most relevant art. The aforementioned citation comprises a voluntary citation of related art of which applicant and his attorney are presently aware and is not intended to serve as a substitute for the Examiner's own search.

Submitted by,

 (Reg. No. 45,877)

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450 on June 9, 2004.





Form PTO-1449

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION
(use several sheets if necessary)

Docket No. P04,0019	Serial No. 10/782,655
Applicant Alex Mindich	
Filing Date February 19, 2004	Group Art Unit

U.S. PATENT DOCUMENTS

Examiner's Initials		Document Number	Date	Name	Class	Subclass	Filing Date If appropriate
	AA	789,135	4/15/1904	Baggaley			
	AB	1,427,553	11/1/1921	Schwinger			
	AC	2,109,861	4/3/1937	Johns			
	AD	2,212,024	9/12/1939	Johns			
	AE	2,244,845	7/30/1938	Matthews			
	AF	2,548,111	8/8/1944	Johns at al.			
	AG	2,852,126	2/28/1957	Ohlberg			
	AH	3,429,422	2/2/1967	Yoshimura			
	AI	3,595,378	3/24/1969	Kamisaka			
	AJ	3,661,244	4/18/1969	Koyama			
	AK	3,762,536	3/30/1972	Rogers			
	AL	4,402,395	6/2/1981	Hashimoto			
	AM	4,410,082	7/19/1982	McGinnis			
	AN	2,013,242	5/12/1934	Johns			
	AO	3,469,676	9/22/1967	Wheeler			
	AP	3,615,152	7/7/1969	Bouzat et al			
	AQ	4,061,223	9/30/1975	McGinnis			
	AR	4,106,613	3/4/1977	Thomson			
	AS	4,387,801	1/12/1981	Hoover			
	AT	4,823,941	11/20/1985	Mindich			
	AU	5,836,440	1/10/1997	Mindich			
	AV	3,773,167	8/16/1971	McGinnis			



Form PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION (use several sheets if necessary)					Docket No. P04,0019		Serial No. 10/782,655	
					Applicant Alex Mindich			
					Filing Date February 19, 2004		Group Art Unit	
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation Yes No	
	BA	2 263 955 A1	10/10/1975	France			Abst	
	BB	52-25383	2/25/1977	Japan			Abst	
	BC	56-48312	5/11/1981	Japan			Abst.	
	BD	1 934 342	7/16/1970	Germany				x
	BE	796 295	4/3/1936	France				x
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)								
	CA	Japan Pipe Conveyor Co., Ltd.; Transportation System Pipe Conveyor; English, 1982						
	CB	Japan Pipe Conveyor Co., Ltd.; Transportation System Pipe Conveyor; Japanese, 1982						
Examiner				Date Considered				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								